

## Weather Notes

### SEVERE HAIL, SELDEN, KANSAS, JUNE 3, 1959

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On the afternoon of June 3, 1959, Selden, a small town in the northwestern corner of Sheridan County, Kansas, suffered one of the most severe hailstorms in the State's record. In contrast to most severe hailstorms, there was little wind and the stones were small. The tragedy was

produced by the sustained fall of hailstones for approximately 85 minutes.

Late in the afternoon, about 5:15 p.m., the hail began and with the initial stones the wind was quite strong and quickly changed directions breaking many windows. The



FIGURE 1.—Aerial view showing 18 inches of hail covering Selden, Kans. on June 3, 1959. Outline of fields can be seen in distance, which shows the extent of the hail southwest of Selden. (Photo courtesy *Norton Daily Telegram*.)



FIGURE 2.—Aerial view of Selden and vicinity, June 3, 1959. Southern edge of hail area is shown at top of picture. (Photo courtesy Norton Daily Telegram.)



FIGURE 3.—Aerial close-up of Selden, June 3, 1959, shows how trees were stripped of leaves and flat roofs were caved in. Black area of building next to the quonset is collapsed part of roof. (Photo courtesy Norton Daily Telegram.)

wind soon quieted over the area but hail continued to fall incessantly until 6:40 p.m.

The area covered by the hail was elongated, about 9 miles northeast to southwest and 6 miles across at the widest. Selden was located a little to the northeast of the center of the area.

In addition, to the hail, rain was variously estimated at 3 to 5 inches, and many basements were flooded.

The hail accumulated to a depth of 18 inches and was mostly pea or marble size and many of the stones were soft. Drifts were 3 to 4 feet deep at the sides of buildings where it fell from the roofs. Piles along the streets and roads remained for 2 days. Traffic on U.S. Highway 83 was halted, and approximately 100 automobiles were stalled 4 hours, or more, until bulldozers could open the roads. Snow plows were unable to move the weight.

The Red Cross reported 2 business buildings destroyed, major damage done to 10 business houses, 8 farm buildings, and 5 homes. Minor damage was indicated to almost every building in the area, 154 homes, 125 farm buildings, and 27 business buildings. In some measure the damage was due to the continuous pelting of the stones but the greater losses resulted from the tremendous weight

of accumulated hail on flat- or nearly flat-roofed buildings, causing them to collapse. The hail accumulation on a truck scale, 10 x 45 feet, weighed 28,000 pounds, or 62.2 pounds per square foot. Damage over the area was estimated at \$500,000.

Trees were stripped of leaves and small branches, and with the ground hail-covered the town had much the appearance of winter. In just a few minutes the temperature on local thermometers dropped from near 80° to 38° during the storm.

There were several narrow escapes as roofs collapsed, especially in the restaurant, where a number of people had collected, but only one man was slightly injured when struck on the head as an awning gave way due to the weight of the hail. Two men caught in a pickup truck were unable to shout loud enough for the other to hear above the roar of the hail on the metal cab roof.

A local citizen described the storm as follows, "The hail began and just didn't stop."

A news writer expressed his reaction to the scene quite well in these words, "I saw a chunk of January in the heart of June."

### WORLD RECORD ONE-MINUTE RAINFALL AT UNIONVILLE, MARYLAND

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On July 4, 1956, 1.23 inches of rain apparently fell in one minute at Unionville, Md. During the afternoon intense thunderstorms prevailed in the Piedmont area over northern Virginia and adjacent portions of north central Maryland. Unusual instability and intense storm development was further evidenced by a report of a funnel cloud near Quantico, Va.

At a U.S. Geological Survey stream gaging station, Little Pipe Creek at Avondale, about 10 miles northwest of Unionville, Md., streamflow reached the greatest peak flow for this station since it was established in August 1947. Further, based on an analysis of the annual extreme peak discharges, the July 4, 1956 peak discharge is estimated to have a return period of more than 20 years. At Westminster, 12 miles northeast of Unionville, severe thunderstorms brought the heaviest rainstorm in years. Streets resembled rivers, and many basements were flooded with several inches of water. Telephone communications were put out of order by the heavy rains, and fields were

badly eroded. Gardens were flooded with damage to vegetables, and the local hay crops were flattened in the fields.

Associated with this area of heavy storms was the cloudburst reported at Unionville, Md. during which 1.23 inches of precipitation occurred in an estimated period of 1 minute. The total precipitation in the Unionville storm was 3.60 inches for the period from 1450 EST to 2330 EST with a total of 2.84 inches occurring during the 50-minute period from 1450 to 1540 EST. Many basements in Unionville were flooded; at least one was filled to the ground level or higher. Residents reported only one severe bolt of lightning and one loud crash of thunder but little or no wind during the storm. The sky became so dark that residents had to switch on electric lights. Mr. G. P. Von Eiff, cooperative weather observer, was in Frederick, Md. at the time of the storm and reported that clouds in the direction of Unionville were intensely dark. The wife of the cooperative weather observer reported rainfall